

WHAT IS CLAIMED IS:

1. An apparatus for monitoring an antenna of a mobile station comprising:
a current sensing circuit to sense a current consumption amount of a power amplifier that amplifies a transmission signal;
a baseband chip to determine malfunction of a first antenna based on the sensed current, the baseband switch to control switching to a second antenna when the first antenna is determined to be malfunctioned; and
a communication band switch to selectively switch the transmission signal from the first antenna to the second antenna based on the baseband chip.
2. The apparatus of claim 1, wherein the baseband chip further informs a user of antenna malfunction when at least one of the antennas malfunctions.
3. The apparatus of claim 1, wherein the current sensing circuit comprises:
a resistor coupled between a node 'A' and a node 'B', the node 'A' coupled to a battery voltage terminal and the node 'B' coupled to a power source voltage terminal of the power amplifier, the resistor to sense the current consumption amount of the power amplifier; and
a comparator to output a voltage level corresponding to a voltage difference between a voltage of the node 'A' and a voltage of the node 'B'.

4. The apparatus of claim 3, wherein the voltage of the node 'A' is input to a non-inverted input terminal of the comparator and the voltage of the node 'B' is input to an inverted input terminal of the comparator.

5. The apparatus of claim 1, wherein the baseband chip determines malfunction when the sensed current increases.

6. The apparatus of claim 5, wherein if the increased amount of current is not within a tolerance range for determining a normal state of the antenna, the baseband chip determines that the first antenna is in an electrically malfunction state.

7. The apparatus of claim 1, wherein the communication band switch comprises:
a diplexer to separate first signals and second signals by low pass filtering and high pass filtering;

a first switch to transmit and receive the first signals according to a band switching control signal input to a band switching control terminal;

a second switch to transmit and receive the second signals according to the band switching control signal; and

a third switch to switch the power-amplified transmission signal received from a duplexer to one of the first antenna and the second antenna based on a switching control signal of the baseband chip.

8. The apparatus of claim 1, wherein the first antenna comprises an antenna that is currently connected to a transmission path of the transmission signal, and the second antenna comprises a preliminarily provided antenna.

9. The apparatus of claim 1, wherein the first antenna comprises an external antenna and the second antenna comprises an auxiliary antenna.

10. The apparatus of claim 1, wherein the first antenna comprises an auxiliary antenna and the second antenna comprises an external antenna.

11. An apparatus for monitoring an antenna of a mobile station comprising:
a resistor coupled between a battery voltage terminal and a power source voltage terminal of a power amplifier to sense a current consumption amount of the power amplifier;

a comparator to detect a voltage level corresponding to an amount of voltage drop due to the resistor; and

a baseband chip to determine that the antenna connected to a current transmission path is in an electrically malfunction state based on the detected voltage level.

12. The apparatus of claim 11, wherein if the antenna is determined to be in a malfunction state, the baseband chip generates a switching control signal to switch the current transmission path to a preliminary antenna.

13. The apparatus of claim 12, wherein if the antenna is determined to be in the malfunction state and the preliminary antenna is in an electrically malfunction state, the baseband chip informs a user of the abnormal operation of the antennas.

14. A method for monitoring an antenna of a mobile station comprising:
sensing a consumed amount of current of a power amplifier;
checking whether the sensed amount of current is within an allowance range
for determining a normal state; and
switching to a preliminary antenna if the sensed amount of current does not
come within the allowance range.

15. The method of claim 14, wherein the sensing comprises:
measuring a dropped amount of voltage due to the resistor provided between
a battery voltage terminal and a power source voltage terminal of the power amplifier; and
generating a voltage level corresponding to the measured dropped amount of
voltage.

16. The method of claim 15, wherein the measuring of the dropped amount of voltage due to the resistor is made by connecting the battery voltage terminal to a non-inverted input terminal of a comparator and the power source voltage terminal of the power amplifier to an inverted input terminal of the comparator.

17. The method of claim 15, wherein if the generated voltage level is greater by a predetermined value than a stored corresponding voltage level, the antenna currently connected to the transmission path is determined to be in a malfunction state.

18. The method of claim 17, wherein the stored voltage level comprises a value that has been measured and stored when the antenna is in a normal state.

19. The method of claim 14, wherein the switching comprising:
switching a transmission path to the preliminary antenna when the sensed amount of current does not come within the allowance range and the preliminary antenna is normally operated.

20. The method of claim 19, further comprising:
informing a user of malfunction states of a current antenna and the preliminary antenna when the sensed amount of current does not come within the allowance range and the operation of the preliminary antenna is electrically abnormal.

21. The method of claim 14, further comprising:
maintaining the current transmission path if the sensed amount of current comes within the allowance range.
22. The method of claim 14, wherein the preliminary antenna comprises another antenna that is not currently connected to the transmission path.
23. The method of claim 22, wherein said another antenna includes one of an external antenna protruded outwardly from the mobile station and an auxiliary antenna provided inside the mobile station.
24. A mobile terminal, comprising:
a first device to determine a state of a first antenna; and
a second device to switch to operation of a second antenna based on the determination of the first device.
25. The mobile terminal of claim 24, wherein the first device comprises:
a circuit to sense current consumption of an amplifier; and
a chip to determine the state of the first antenna based on the sensed current.

26. The mobile terminal of claim 25, wherein the second device switches to operation of the second antenna when the first antenna is determined to be malfunctioning.

27. The mobile terminal of claim 25, wherein the circuit comprises:

a resistor coupled between a node 'A' and a node 'B', the node 'A' coupled to a battery voltage terminal and the node 'B' coupled to a power source voltage terminal of the amplifier, the resistor to sense the current consumption amount of the amplifier; and

a comparator to output a voltage level corresponding to a voltage difference between a voltage of the node 'A' and a voltage of the node 'B'.

28. The mobile terminal of claim 24, wherein the second device comprises:

a diplexer to separate first signals and second signals by low pass filtering and high pass filtering;

a first switch to transmit and receive the first signals according to a band switching control signal input to a band switching control terminal;

a second switch to transmit and receive the second signals according to the band switching control signal; and

a third switch to switch the power-amplified transmission signal received from a duplexer to one of the first antenna and the second antenna based on a switching control signal of the baseband chip.